Acute Interventions and Referral of Patients With Bipolar Disorder by the Psychiatric Consultation Liaison Service in a General Hospital in Germany: A Retrospective Analysis

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ABSTRACT

Objective: To investigate the population of bipolar patients in a general hospital in Germany who required treatment by a consultant psychiatrist.

Method: A retrospective analysis was conducted of the clinical records of 47 patients diagnosed with bipolar disorder (*DSM-IV-TR* criteria) who were treated by a consultant psychiatrist between 2009 and 2012 in one of the general hospitals of Charité Berlin, Campus Benjamin Franklin, Berlin, Germany. We investigated the sections of the hospital that requested psychiatric consultations for bipolar patients, the status of these patients, and their primary cause of treatment, as well as the intervention (including pharmacotherapy) recommended by the consultant psychiatrist.

Results: For more than half of the patients, their psychiatric illness was either directly or indirectly the reason they presented to the hospital. The remaining bipolar patients were treated for various somatic illnesses unrelated to their bipolar disorder throughout the hospital, with a relative overrepresentation of patients in the neurology department. More than half of the patients were referred to a psychiatric hospital by the consultant psychiatrist. Benzodiazepines were the most commonly administered drugs for acute pharmacologic intervention.

Conclusions: Psychiatric consultations are not frequently requested for bipolar patients compared to those with other psychiatric disorders. However, more than half of the bipolar patients needed further psychiatric treatment in a psychiatric hospital. This finding emphasizes the importance of psychiatric consultations in a general hospital for bipolar patients. The administration of benzodiazepines as an acute treatment seems to be the standard pharmacologic procedure, not a specific pharmacotherapy like mood stabilizers.

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omatic and psychiatric illnesses often coexist in hospital inpatients. 1,2 Psychiatric consultation services constitute the connection between the psychiatric and nonpsychiatric departments of a hospital and have the aim of best treating patients with comorbid somatic and psychiatric disorders.³ While psychiatric disorders that are common in somatic patients, such as depression and substance abuse disorders, ⁴ have received increased scientific attention over the past few years, other psychiatric disorders, such as bipolar disorder, have been less studied in somatic patients. Bipolar disorder is one of the most disabling affective disorders, with severe personal as well as social implications for patients.⁵ There is an estimated lifetime prevalence of 0.8%-1.5% for bipolar I disorder and up to 5% for the whole bipolar spectrum. Bipolar disorder is a chronic, episodic illness that is linked to increased mortality due to comorbid physical diseases as well as an increased risk of suicide. 7,8 The treatment of bipolar disorder is complex and has to be adapted to the patient's condition. Treatment of a patient with bipolar disorder can be particularly challenging if it takes place in the context of a psychiatric consultation within a general hospital. In this case, the consultant psychiatrist has to consider the patient's physical and psychiatric state as well as under which conditions the patient can best be treated. The consultant psychiatrist has several treatment options with regard to a patient's psychiatric disorder. The consultant psychiatrist can recommend treatment of a patient in a psychiatric hospital, liaison treatment of a patient on the nonpsychiatric ward by the consultant psychiatrist, treatment of a patient on the nonpsychiatric ward by nonpsychiatrists, or psychiatric outpatient treatment after discharge from the hospital. In all cases, the consultant psychiatrist can also acutely administer drugs to the patients and recommend long-term medication. To our knowledge, there are no studies specifically investigating the acute treatment procedures of bipolar patients in the context of psychiatric consultation within a general hospital.

METHOD

We present a retrospective investigation of psychiatric consultations for patients with bipolar disorder from 2009 to 2012 in one of the general hospitals of Charité Berlin, Campus Benjamin Franklin, Berlin, Germany. This hospital has 35 departments and 1,000 beds. The department of psychiatry is located offsite so that psychiatric patients will not be admitted in the main hospital. For patients with psychiatric disorders who present to the main hospital, the psychiatric consultation service was implemented. In the daytime, patients also have the option of consulting with the attending psychiatrist in the emergency room.

We investigated the sections of the hospital that requested psychiatric consultations for bipolar patients, the status of these patients, and their primary cause of treatment, as well as the intervention recommended by the consultant psychiatrist. We also determined the medications the patients were already receiving and the medications that were recommended by the consultant psychiatrist. Our source of information was the hospital's clinical consultation sheets of the patients.

- Approximately half of all bipolar patients visited the general hospital primarily because of their bipolar disorder.
- More than 50% of bipolar patients in a general hospital need a referral to a psychiatric hospital for further treatment.
- Bipolar patients in a general hospital should consult with a psychiatrist for diagnostic investigations, acute treatment interventions, and further psychiatric therapy when required.

Diagnosis

The psychiatric diagnoses were given by the attending senior psychiatrist according to the current version of the *DSM-IV-TR*. A standardized interview was not implemented, as this was a naturalistic sample.

Statistics

Descriptive analysis was performed using means and standard deviations. Statistical analyses were performed using SPSS for Windows, version 21 (SPSS Inc, Chicago, Illinois).

RESULTS

Patients

Between 2009 and 2012, 3,968 psychiatric consultations were requested. Forty-seven of these consultations (1.13%) concerned patients who either already had the diagnosis of bipolar disorder or received the diagnosis by the consultant psychiatrist. Of these 47 patients, 39 had bipolar I disorder and 8 had bipolar II disorder (Table 1 includes demographic data). Of the bipolar I patients, 18 were currently in a depressive episode, 10 were in a manic state, 5 were euthymic, 4 were in a mixed episode, and 2 were in a hypomanic episode. Of the bipolar II patients, 6 were currently in a depressive state, and 2 were hypomanic. As can be seen in Table 2, the majority of patients for whom a psychiatric consultation was required came from the emergency department of the hospital. Roughly two-thirds of bipolar patients in the emergency department presented voluntarily, while the remaining one-third were admitted by ambulance. The neurology department presented the second highest amount of bipolar patients, followed by various other departments within the hospital.

Primary Reason for Treatment

Twenty-four patients (51.1%) visited the general hospital primarily because of their bipolar disorder. This number included patients who experienced an increase in depressive or manic symptoms, patients who attempted suicide, patients who suffered from an accidental intoxication of their mood-stabilizing medication, and patients who demanded advice regarding their psychotropic medication. These patients were mostly treated in the emergency, intensive care, internal medicine, and psychosomatic departments (in Germany, patients with psychosomatic illnesses are still often treated separately from psychiatric patients).

Five patients (10.6%) were treated in the hospital because of reasons that were related to their psychiatric illness. These

Table 1. Demographic Data of 47 Patients With Bipolar Disorder Presenting to a General Hospital in Germany^a

Bipolar Patients		
20 (42.6)		
27 (57.4)		
39 (83.0)		
8 (17.0)		
24 (51.1)		
10 (21.3)		
4 (8.5)		
4 (8.5)		
5 (10.6)		
6 (12.8)		
54 (16, 20-85)		
	20 (42.6) 27 (57.4) 39 (83.0) 8 (17.0) 24 (51.1) 10 (21.3) 4 (8.5) 4 (8.5) 5 (10.6) 6 (12.8)	

^aData are presented as n (%) unless otherwise specified.

were patients who, within a depressive or manic episode, abused alcohol and as a result suffered either injuries or intoxication.

Finally, for 19 patients (40.4%), the reason for treatment in the hospital was related to a somatic illness that was independent of the bipolar disorder. Almost half of these patients were being treated in the neurology department. The remaining patients were almost equally distributed throughout the nephrology, cardiology, otorhinolaryngology, hematology, and dermatology departments. The reasons for the requested psychiatric consultations were mainly depressive symptoms or questions concerning pharmacotherapy.

Treatment Procedure

With regard to the treatment procedure recommended by the consultant psychiatrist, 27 patients (57.4%) were voluntarily admitted to a psychiatric hospital. These patients visited the hospital because of symptoms caused by their bipolar disorder or their somatic illness had already been treated or was less urgent to treat than their psychiatric illness.

Seven patients (14.9%) were treated by a nonpsychiatrist according to recommendation by the consultant psychiatrist, and 6 (12.8%) were treated by the consultant psychiatrist through several consultations outside of the psychiatric department (liaison treatment). In these 13 patients, their somatic illness was more prominent than their psychiatric illness. The consultant psychiatrist, depending on the severity of the psychiatric symptoms, either advised the physicians in the respective department on the patient's psychiatric treatment or, in more severe cases, treated the patient in the respective department.

Four patients (8.5%) were discharged and received a recommendation for outpatient treatment, 2 patients (4.3%) were discharged with psychiatric medication (benzodiazepines and atypical antipsychotic drugs), and 1 patient (2.1%) was committed involuntarily to the psychiatric department due to endangerment to self or others.

Six bipolar patients (12.8%) required the consultation of a psychiatrist due to a suicide attempt. All patients with

Table 2. Overview of Patients With Bipolar Disorder Requiring Psychiatric C Episode, Primary Reason for Hospital Treatment, and Treatment Procedure	s With Bipolar Disc Hospital Treatmer	order Requiring Psyont, and Treatment Pi	chiatric Consultation Arranged by the Hos rocedure	Psychiatric Consultation Arranged by the Hospital Department That Requested the Consultation, Diagnosis, nt Procedure
Department	Diagnosis	Episode	Primary Reason for Hospital Treatment	Procedure
Emergency (n=13)	Bipolar I (n = 10)	Depressive $(n=5)$	Depressive symptoms (n = 3)	Discharge with medication $(n=1)$ Voluntary admission to psychiatric hospital $(n=2)$
			Fall due to alcohol $(n=1)$ Delusions of persecution $(n=1)$	Voluntary admission to psychiatric hospital $(n=2)$
		Manic $(n=3)$	Manic symptoms $(n=1)$ Found helpless in the street $(n=1)$	Voluntary admission to psychiatric hospital $(n=3)$
		Mixed (n=1) Furthymic (n=1)	Depressive and manic symptoms $(n=1)$ Onestions regarding lithium treatment $(n=1)$	Discharged with recommendation for outpatient treatment (n=1) Discharged with recommendation for outpatient treatment (n=1)
	Bipolar II $(n=3)$	Depressive $(n-1)$ Hypomanic $(n-1)$	Consistence of the control of the co	Voluntary admission to psychiatric hospital (n = 2) Discharged with recommendation for outbasical treatment (n = 1)
Emergency with ambulance	Bipolar I (n=5)	Depressive $(n=4)$	Suicide attempt $(n=2)$	Voluntary admission to psychiatric hospital $(n=3)$
(u=0)			Depressive symptoms $(n=1)$ Panic attack $(n=1)$	Discharge with medication (n=1)
	Binolar II (n=1)	Hypomanic $(n=1)$ Depressive $(n=1)$	Alcohol intoxication $(n=1)$ Suicide afternot $(n=1)$	Voluntary admission to psychiatric hospital $(n=1)$ Voluntary admission to psychiatric hospital $(n=1)$
Neurology $(n=8)$	Bipolar I $(n=6)$	Depressive $(n=1)$	Weakness in left leg $(n=1)$	Voluntary admission to psychiatric hospital $(n=1)$
	,	Manic (n=3)	Dizziness $(n=2)$	Discharged with recommendation for outpatient treatment (n=1)
			Alcohol intoxication $(n=1)$	Involuntary commitment to psychiatric hospital $(n-1)$
		Hypomanic (n = 1)	Neurologic diagnostics $(n=1)$	Treatment by nonpsychiatrist according to recommendation by psychiatrist (n=1)
		Euthymic $(n=1)$	Stroke $(n=1)$	Liaison treatment by consultant psychiatrist $(n=1)$
	Bipolar II $(n=2)$	Depressive $(n=1)$ Hypomanic $(n=1)$	Stroke $(n=1)$ Epileptic seizure $(n=1)$	Voluntary admission to psychiatric hospital ($n=1$) Voluntary admission to psychiatric hospital ($n=1$)
Intensive care $(n=3)$	Bipolar I $(n=3)$	Depressive $(n=1)$	Suicide attempt (n = 1)	Voluntary admission to psychiatric hospital (n = 1)
		Manic (n=1) $Mixed (n=1)$	Severe cardiac failure $(n=1)$ Suicide attempt $(n=1)$	Treatment by nonpsychiatrist according to recommendation by psychiatrist $(n=1)$ Voluntary admission to psychiatric hospital $(n=1)$
Internal medicine $(n=4)$	Bipolar I (n=4)	Depressive $(n=1)$	Headache after fall due to alcohol $(n=1)$	Voluntary admission to psychiatric hospital (n = 1)
			Quetiapine and alcohol intoxication $(n=1)$	Treatment by nonpsychiatrist according to recommendation by psychiatrist (n=1)
	,	Manic $(n=1)$	Cannot move extremities $(n=1)$	Voluntary admission to psychiatric hospital $(n=1)$
Psychosomatic $(n=2)$	Bipolar I $(n=1)$ Bipolar II $(n=1)$	Mixed (n = 1) $Depressive (n = 1)$	Depressive and manic symptoms $(n=1)$ Depressive symptoms $(n=1)$	Voluntary admission to psychiatric hospital $(n=1)$ Treatment by nonpsychiatrist according to recommendation by psychiatrist $(n=1)$
Nephrology (n = 2)	Bipolar I (n=2)	Manic $(n=1)$ Euthymic $(n=1)$	Nephrologic diagnostics $(n=1)$ Kidney failure $(n=1)$	Liaison treatment by consultant psychiatrist $(n\!=\!1)$ Treatment by nonpsychiatrist according to recommendation by psychiatrist $(n\!=\!1)$
Surgical $(n=2)$	Bipolar I (n=2)	Depressive (n=2)	Suicide attempt $(n = 1)$ Colon cancer $(n = 1)$	Voluntary admission to psychiatric hospital $(n=1)$ Liaison treatment by consultant psychiatrist $(n=1)$
Cardiology $(n=2)$	Bipolar I $(n=1)$ Bipolar II $(n=1)$	Mixed $(n=1)$ Depressive $(n=1)$	Atrial fibrillation $(n=1)$ Cardiologic diagnostics $(n=1)$	Treatment by nonpsychiatrist according to recommendation by psychiatrist $(n\!=\!1)$ Voluntary admission to psychiatric hospital $(n\!=\!1)$
Otorhinolaryngology (n=2)	Bipolar I (n = 2)	Depressive (n=2)	Cyst $(n=1)$ Tonsil cancer $(n=1)$	Voluntary admission to psychiatric hospital $(n=1)$ Liaison treatment by consultant psychiatrist $(n=1)$
Hematology $(n=2)$	Bipolar I $(n=2)$	Depressive $(n=1)$ Manic $(n=1)$	Acute myeloid leukemia $(n=1)$ Pancytopenia $(n=1)$	Liaison treatment by consultant psychiatrist $(n=1)$ Liaison treatment by consultant psychiatrist $(n=1)$
Dermatology (n=1)	Bipolar I (n = 1)	Depressive (n=1)	Zoster infection $(n=1)$	Treatment by nonpsychiatrist according to recommendation by psychiatrist $(n=1)$

Table 3. Pretreatment Medication and Medication Recommended by the Consultant Psychiatrist

		No. of Patio	ents With Medication Reco	mmendation by Treatn	nent Procedure
			Discharged With		Treatment by
		Voluntary	Medication and/or	Liaison Treatment	Nonpsychiatrist as
	No. of Patients	Admission to	Recommendation for	by the Consultant	Recommended by the
	Admitted With	Psychiatric Hospital	Outpatient Treatment	Psychiatrist	Consultant Psychiatrist
Medication	Medication	(n=27)	(n=6)	(n=6)	(n=7)
No medication	16	12	4	1	2
Benzodiazepines	0	11	2	4	3
Lithium	10	1	0	2	1
Valproic acid	5	1	0	0	0
Atypical antipsychotics	16	2	3	2	4
Typical antipsychotics	4	0	0	0	0
Tricyclic antidepressants	5	0	0	0	0
Selective serotonin reuptake inhibitors	8	1	1	0	0
Serotonin-norepinephrine reuptake inhibitors	5	0	0	1	0
Other antidepressants	3	0	0	1	0

attempted suicide, independent of where in the hospital they were being treated, were referred to a psychiatric hospital by the consultant psychiatrist. Five of these patients were in a depressive episode, and 1 was in a mixed episode. Three suicide attempts were linked to alcohol abuse. Additionally, 5 more patients were treated due to alcohol-related injuries or intoxication. These patients were also referred to a psychiatric hospital.

Medication

As can be seen in Table 3, 16 patients arrived at the hospital without previous medication for their bipolar disorder. The most common treatments for those patients with medication were atypical antipsychotics, lithium, and antidepressants, often in combination therapy. In most cases, medication prescribed by the consultant psychiatrist was nonspecific with benzodiazepines, which were the most commonly administered drugs. Especially in those patients who were transferred to a psychiatric hospital, the consultant psychiatrist made only a few specific recommendations regarding medication. In 5 patients who were not taking medication, the consultant psychiatrist recommended specific medication in the form of an antipsychotic drug (n = 4), an antidepressant (n = 1), or lithium (n = 1). In 8 already medicated patients, the consultant psychiatrist changed the medication. In 3 patients who had developed manic symptoms under an antidepressant therapy, an antipsychotic drug was recommended. In 3 patients, lithium was added to an antidepressant therapy, and, in 2 patients, the type of antipsychotic drug was changed.

DISCUSSION

To our knowledge, this is the first study investigating the procedures for acute treatment of bipolar patients by a consultant psychiatrist within a general hospital. Only 1.13% of all patients for whom psychiatric consultation was requested had a diagnosis of bipolar disorder. This small number can be explained by the generally low lifetime prevalence of bipolar disorder, 6 the fact that the study was conducted in a general rather than a psychiatric hospital, and the possibility that bipolar disorder was incorrectly diagnosed. 10 Most patients

were addressed in the emergency department, and the most common treatment procedure was referral to a psychiatric hospital. The neurology department had the second highest demand for psychiatric consultations regarding patients with bipolar disorder. This result is consistent with the finding that psychiatric morbidity is common in neurology patients. More than half of the patients visited the general hospital primarily due to symptoms related to their bipolar disorder. Only 40% were treated for somatic illnesses unrelated to bipolar disorder.

More than half of the patients whom the consultant psychiatrist visited were transferred to a psychiatric hospital. Factors most indicative of a patient being transferred to a psychiatric hospital were a recent suicide attempt and alcoholrelated injuries or intoxication. These factors most likely highlight the severity of bipolar disorder and require more intensive psychiatric care than a consultant psychiatrist can provide. The number of transfers was much higher than has been reported for psychiatric patients in general. Krautgartner et al,4 for example, report that only 8.4% of all psychiatric cases in a general hospital required inpatient referral. The fact that the majority of patients in our study were transferred to a psychiatric ward for optimal psychiatric treatment shows the severity of bipolar disorder. We found that 12.8% of bipolar patients were admitted after a suicide attempt. When this result is compared with other studies, the number of suicide attempters is quite low. The suicide attempt rate of bipolar patients is estimated between 25% and 50%. 12,13 Our comparatively low rate might be correlated to the fact that many suicide attempters were directly transferred to hospitals with a psychiatric department in the same location rather than to a general hospital without a psychiatric department onsite. The finding that all bipolar patients in our population with attempted suicide were transferred to a psychiatric hospital throughout the course of treatment might be an indicator of the severity of suicide attempts in bipolar disorder. 14 For example, a study by Miret et al¹⁵ conducted in 4 public general hospitals in Madrid, Spain, found that only 21.4% of all patients with suicide attempt were admitted to psychiatric units. This number is also much closer to our practical experience.

Finally, medication administered by the consultant psychiatrist was mostly nonspecific in the form of benzodiazepines, with the goal of treating symptoms of agitation, despair, and mania. This treatment choice can be explained by the acute effects of benzodiazepines and the briefness of contact between the consultant psychiatrist and the patient. The consultant psychiatric service is rarely the optimal setting to find a specific medication for a patient with bipolar disorder. This is a task that can better be achieved within a psychiatric hospital or in outpatient treatment. Interestingly, 16 patients arrived at the hospital without any psychopharmacotherapy. This finding might indicate that bipolar disorder is often neither properly diagnosed nor sufficiently treated. This assumption can be underlined by the findings of Hirschfeld et al, 10 who found that nearly 50% of bipolar patients were not correctly diagnosed as bipolar.

Although bipolar II disorder is more common than bipolar I, substantially more bipolar I patients were seen than bipolar II patients. There are several explanations for this observation. First, since manic patients are relatively hard to handle in a nonpsychiatric setting, it is possible that clinicians more readily call a psychiatrist when they know that a patient is suffering from bipolar I disorder. They might be more sensitive toward the patient's mental state and more often ask for the opinion of a psychiatrist. This increased sensitivity could also explain why the consultant psychiatrist saw several euthymic patients with bipolar I but none with bipolar II disorder. Second, there is the possibility that patients with bipolar I disorder suffer from more physical comorbidities and are therefore more commonly found in hospitals. Significantly more bipolar I patients in our sample suffered from alcohol abuse or dependency.¹⁶ Finally, there is also the possibility that patients with bipolar II disorder were diagnosed with unipolar depression if they were seen by the consultant psychiatrist in a depressive phase. Consultant psychiatrists need to make a diagnosis after seeing a patient once and mostly rely on the patient's information. Patients with bipolar II disorder, however, often do not report the hypomanic phases because they consider them as recovery from depression. Hypomania is often a pleasant egosyntonic mood state that patients yearn to achieve again, thus they do not report it as a clinical condition to a psychiatrist.¹⁷ Underdiagnosis of bipolar II disorder and overdiagnosis of unipolar depression is a known problem, which has severe implications for bipolar II patients, as they might not be treated correctly. Smith et al¹⁷ found that between 3.3% and 21.6% of primary care patients in the United Kingdom who were being treated for unipolar depression were actually suffering from bipolar disorder.

In summary, the high number of bipolar patients who were transferred from the general hospital to a psychiatric department for reasons related to their psychiatric disorder as well as the severity of the disorder emphasizes the importance of a consultant psychiatrist in a general hospital. Psychiatric consultation implementation is important to ensure the adequate diagnosis and treatment of psychiatrically ill patients with or without somatic comorbidities. In many cases, the

consultant psychiatrist is not in charge of the actual treatment but decides upon the best possible procedure to continue the treatment of the patient with bipolar disorder.

This study has some limitations. First, it is a retrospective analysis. All data were drawn from the patients' consultation sheets. In these records, detailed information about the medical history is missing. If a bipolar disorder had not been diagnosed previously, the psychiatrist assigned a suspected diagnosis without a structured interview. Second, the number of bipolar patients is too small to generalize our results. This small number of bipolar patients is most likely characteristic of general rather than psychiatric hospitals in Germany since many bipolar patients are directly treated in psychiatric hospitals for conditions related to their bipolar disorder. It can be assumed that the results are comparable to similar general hospitals without psychiatric wards in other cities throughout Germany but cannot be extended to specialized psychiatric hospitals.

Drug names: lithium (Lithobid and others), quetiapine (Seroquel), valproic acid (Depakene, Stavzor, and others).
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